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ABSTRACT

This report examines data from a study of the relationship among work status, wage levels, marital status, education, age of youngest child and use of child care in allowing low income households to remain off welfare. The study described looking separately at public assistance status (whether a household received welfare) and recidivism (how long a household remained off welfare once exiting). The report is organized into two sections: the first presents data on the impact of raising young children on work and welfare, and sorts the multiple effects on work, child care, and public assistance status; the second section presents descriptive findings and data on factors associated with success in staying off welfare, and findings for Washington state compared to other studies of welfare recidivism. The findings include the following: (1) work, wages, and marital status are the strongest factors determining a household's welfare use; (2) marital status has a significant relationship with the ability of women with young children to remain independent of welfare; (3) the presence of young children (age 0-6) and use of child care were important determinants of women's ability to work and remain economically independent; and (4) effects of education on welfare are unclear. (Contains 2 appendices of statistical data and 14 references.) (SD)

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# WELFARE, WORK AND CHILDCARE IN WASHINGTON STATE

## A Report To The Washington State Department of Social and Health Services

**Prepared by:**
**Richard N. Brandon, Ph.D.**
**Robert D. Plotnick, Ph.D.**

April, 1996

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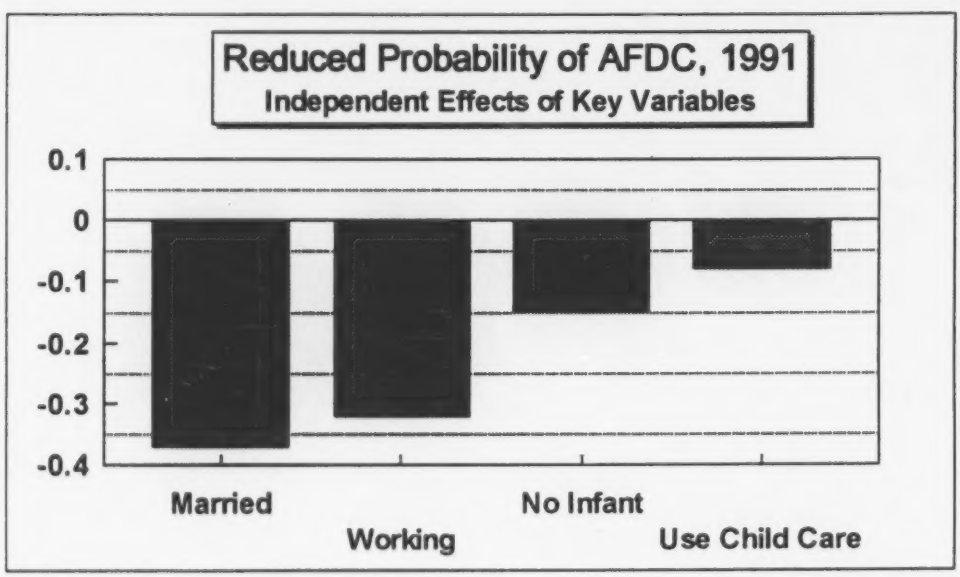
# WELFARE, WORK AND CHILDCARE IN WASHINGTON

## EXECUTIVE SUMMARY

Policy makers in Washington State have been presented findings about work and welfare based upon the Family Income Study (FIS) conducted by the WSIPP. WSIPP analyses have provided much useful information, but have left many issues to be addressed. WSIPP reports have tended to focus on the impact of wages on welfare recidivism, and have argued that a "threshold wage" of about $8 per hour [1994 dollars] is the key determinant of whether a recipient can exit and remain off welfare. We used the FIS database to examine the relationship among work status, wage levels, marital status, education, age of youngest child and use of childcare in allowing low income household to remain off welfare. Previous analyses have tended to lump together two separate questions: what determines whether a household will remain economically independent from welfare, and what will allow a household which enters, then exits, the welfare rolls to remain self-sufficient after exiting. We therefore looked separately at public assistance status -- whether a household received welfare; and recidivism -- how long a household remained off welfare once exiting.

**Work, wages and marital status are the strongest factors determining a household's welfare use.**




### A. Economic Independence

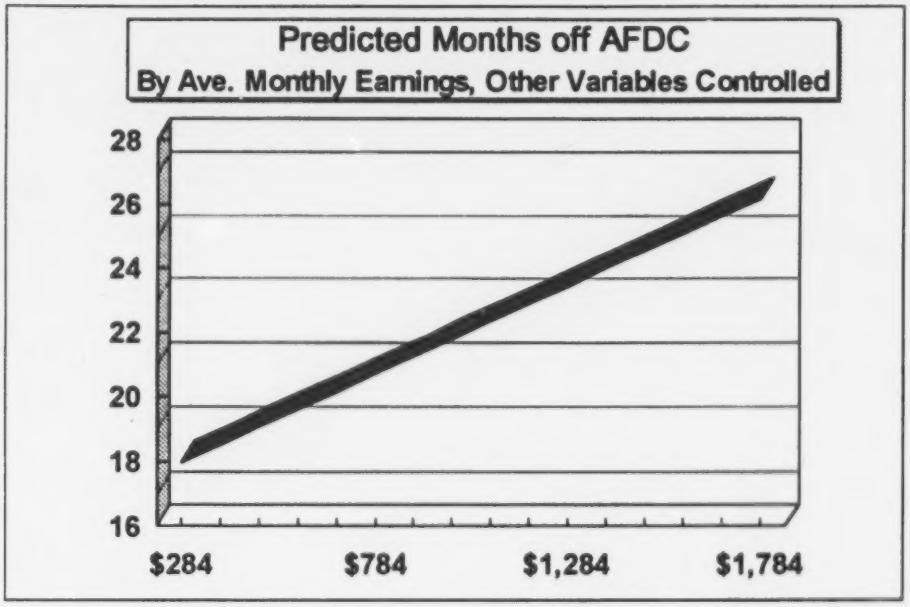
- Working reduced the probability of being on AFDC by 32 percent from a base case of an unmarried, non-white mother with an infant and no child care who had been receiving public assistance three years earlier.

- Two thirds (66 percent) of low income women never on public assistance worked, compared to half (52 percent) of those who received assistance but exited, and only one in five (9 percent) of those remaining on AFDC.

- Overall work effort of both AFDC recipients and other low income women increased by 50 percent from 1988 to 1991 (from a rate of 32 percent to 48 percent), and doubled for women with infants.

**B. Remaining Off After Exiting AFDC**

- There does not appear to be a "threshold" wage above which self-sufficiency is relatively assured and below which return to welfare is likely. Rather, each increase in wages brings a steady increase in the chances of remaining off welfare.




- In multivariate analyses of welfare status and recidivism, working full-time and the level of wages consistently emerged as the dominant factors. For those leaving AFDC, each $100 per month in wages (in 1994 dollars) increases the time remaining off welfare by 0.55 months, and reduces the probability of returning by 10 percentage points.

- Exiters who found full-time jobs stayed off welfare an average of 5.4 months longer than those without full-time jobs.

- The average household exiting welfare had non-wage income of about $564 in addition to wage income of $784. Total financial resources thus equaled $1,348 per month (in 1994 dollars). However, non-wage income was not a major determinant of the differences in how

long exiters remained off welfare, once marital status and other factors were taken into account.

- Since wages are a prime determinant of exiters remaining off welfare, but income is not, non-monetary aspects of higher paid jobs may be having a significant impact.

    * For workers who get higher paid jobs these could include personal characteristics which are also likely to keep them off welfare, such as motivation, work attitudes or ability to get along with employers.

    * There could also be characteristics of higher paid jobs making it more likely that respondents will not return to welfare, including better benefits [health care, family and sick leave, child care]; more regular work hours; or better possibility of advancement. Such factors would tend to encourage staying employed and to raise the costs of quitting.

This interpretation suggests an important policy implication. To improve self-sufficiency, policy makers must consider not just the education and specific job skills that enable low income women to get higher wage jobs, but also personal qualities of the individuals and the non-monetary aspects of those jobs. Interventions for current or potential welfare recipients might include developing better work attitudes and personal interaction skills. Policies to supplement privately provided fringe benefits or to encourage firms to offer jobs with more attractive non-monetary attributes may also be useful.

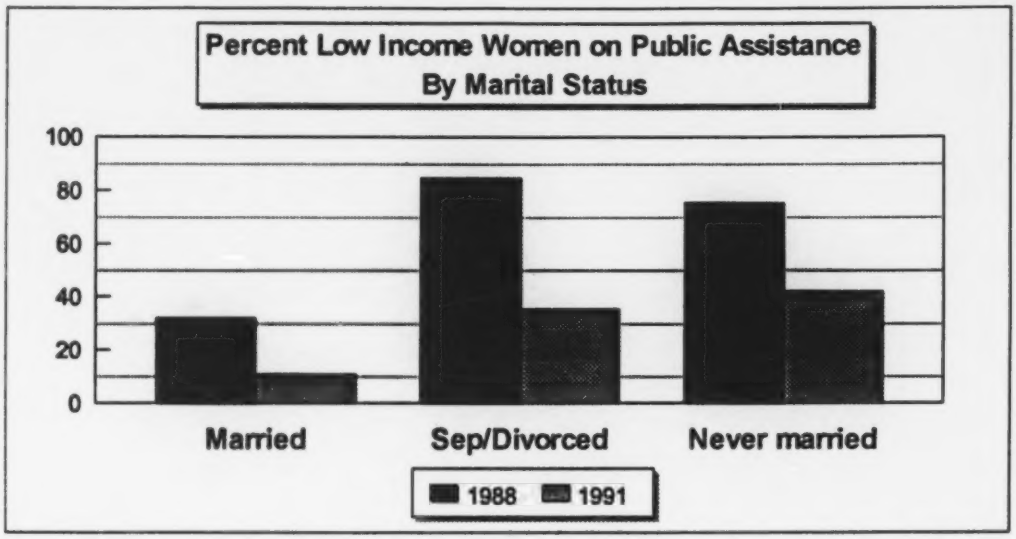
**Marital status has a significant relationship with the ability of women with young children to remain independent of welfare.**

**A. Economic Independence**

- Marriage decreased the probability of being on welfare by 37 percent from a base case of an unmarried, non-white mother with an infant and no child care who had been receiving public assistance three years earlier.

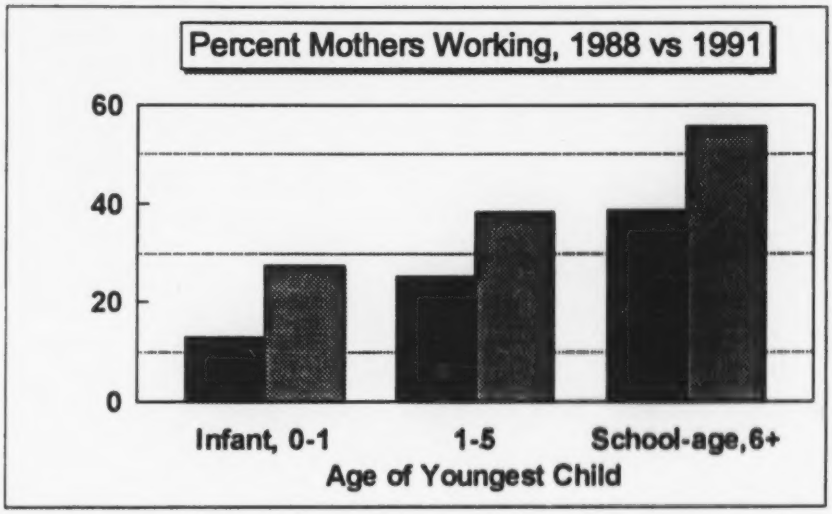
**B. Remaining Off after Exiting AFDC**

- Women who were married when they exited AFDC remained off welfare an average of 5.7 months longer than those who were not married.




**The presence of young children (age 0-6) and use of childcare were important determinants of women's ability to work and remain economically independent.**

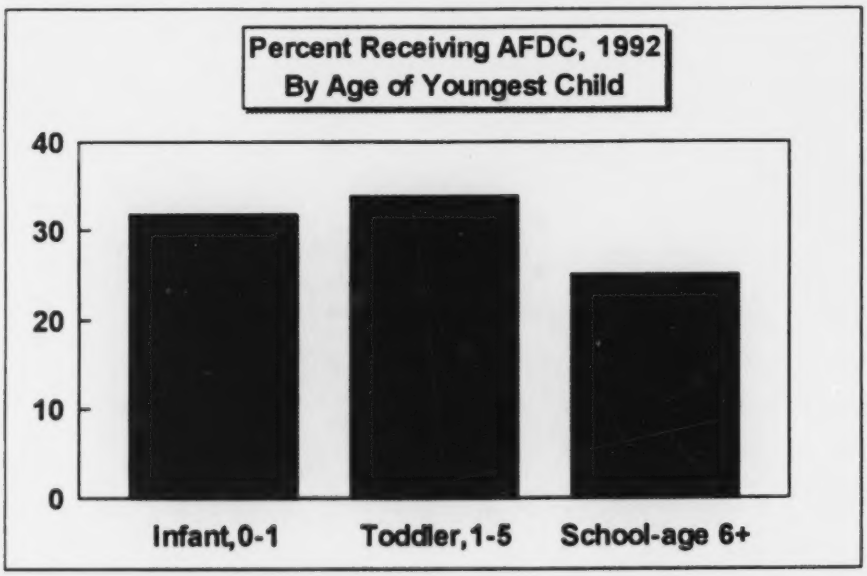
- The percent working was twice as high for mothers with school-aged children as for those with infants (age 0-1). Working increased steadily as age of youngest child increased. This suggests that the free child care provided by public schools facilitates work.




- A substantially greater percent of mothers of pre-school age children received public assistance (39-40 %) than did those whose children were 6 or older (29%).

- Use of child care reduced the probability of being on welfare by 8 percent from the base case, even after controlling for work status and other variables.

- Having young children and use of childcare affect public assistance status, even when work status is controlled. This may reflect the ability to work longer hours or earn higher wages, or may reflect mothers' preferences to stay home with young children.




- Age and race differences in AFDC usé disappeared when use of child care was taken into account. Thus, the fact that white and older women were less likely to be on AFDC was largely accounted for by the fact that they had greater access to child care.

- Child care is an expensive commodity, costing for each child at least 20 percent of the average worker's after-tax wages in Washington state. For low income women, it may cost in excess of 25 percent of income.

We found that having a young child has a significant impact on welfare status, even after work and marital status are controlled. This suggests that public policy must deal with the individual and social desirability for mothers to stay home with young children, as well as with the cost and quality of child care offered. Making quality child care affordable for low income families is clearly a necessary component of assuring economic independence.

**The effects of education on welfare are unclear.**

- Having a high school degree or GED did not significantly reduce the probability of receiving welfare, or of the number of months exiters remained off the rolls. However, a high school degree did increase the probability that once exiting, a household would remain off welfare the entire 36 months.

- A high school degree affects the ability to obtain a higher-paying, full-time job, which does affect both welfare status and recidivism.

# WELFARE, WORK AND CHILDCARE IN WASHINGTON

## *Central Questions*

Over the past 5 years, policy makers in Washington State have been presented findings about work and welfare based upon the Family Income Study (FIS) conducted by the WSIPP. The WSIPP analyses have provided much useful information, but they have left many issues to be addressed. WSIPP reports have tended to focus on the impact of wages on welfare recidivism, and have argued that a "threshold wage" of about $8 per hour [in 1994 dollars] is the key determinant of whether a recipient can exit and remain off welfare. In this study, we utilized the same Family Income Study database compiled by WSIPP to examine the relationship among work status, wage levels, marital status, education, age of youngest child and use of childcare in allowing low income household to remain independent of welfare. Previous analyses have tended to lump together two separate questions: what determines whether a household will remain economically independent from welfare, and what will allow a household which enters then exits the welfare rolls to remain self-sufficient after exiting. We therefore looked separately at public assistance status -- whether a household received welfare (Part I); and recidivism -- how long a household remained off welfare once exiting (Part II). The key questions were:

- In general, what does it take to exit and remain off welfare ?
- Specifically, is a threshold wage, and of what amount, necessary and sufficient to exit and remain off AFDC ?
- What other support factors affect AFDC status? how important are access to child care, marital status and total household income ?

To answer these questions, we brought together several lines of analysis designed to give as complete a picture as possible. We:

- Reviewed literature on welfare exit and recidivism, and on the relationships among childcare, work and welfare.
- Conducted logistic regression analyses of a sample of AFDC exiters to determine the impact of multiple factors affecting recidivism.
- Conducted cross-tabulation and logistic regression analyses of the entire FIS sample to examine relationships among having young children, work and AFDC status.
- Compared average costs of child care, by county, to average wages and minimum family budgets to gain insight into the affordability of child care for working families with children.

**Acknowledgment:** This study was supported by the Washington State Department of Social and Health Services; we appreciate the support of Mr. Jerry Friedman and Mr. Mark McDermott. Dr. Marieka Klawitter of the University of Washington's Graduate School of Public Affairs provided insightful comments and suggestions. The final analysis and conclusions remain the responsibility of the authors.

# *Analysis and Findings*

## Part I. Economic Independence from Public Assistance

It is critical at the start to maintain a clear differentiation between the concept of "*welfare exit*" and "*welfare recidivism*." Of the 1,090 low income women with children in the Family Income Study [FIS], 772 had receive public assistance as of 1988. Of those 772 recipients, 140 had exited by 1988, and an additional 370 exited between 1988 and 1991. Most of the WSIPP analyses about the impact of wages dealt only with the rate at which those 370 exiters did or did not return to the welfare rolls. We refer to that topic as "welfare recidivism." It is important to note that the factors determining whether an exiter can remain off AFDC are not necessarily the same as those that determine whether an individual will exit. In fact, it is preferable analytically to consider the exiters as a special case. When we look at the question of "exit and remain off welfare, " we found that the FIS sample is not very good for analyzing exits, since it is not possible to determine when many of the AFDC participants in the sample began receiving benefits and hence, how long they received aid before leaving. However, FIS does allow us to examine welfare status at a given point in time and see how it relates to other factors, such as work status or family characteristics. While far from ideal, this will give us some important evidence about the relationship of work and childcare to use of welfare for low income households in Washington. And for persons who are observed to exit AFDC, FIS allows us to see how long they stay off and whether they return to the rolls and, hence, allows analysis of the determinants of welfare recidivism.

### Data

The Family Income Study followed a panel of Washington families for the five year period 1988-1992. Families selected for FIS either were on welfare or deemed at risk of needing it. The "at-risk" households in the sample had higher income and a greater rate of marriage than those who were receiving public assistance. Data on a wide set of variables, including use of welfare, labor market experience, use of child care, earnings and other income sources, personal background variables, marital status and area of residence were gathered each year for each family. Many FIS families either were on welfare at the start of FIS or went on welfare at some time during the 5 years.

While the FIS sample does not allow a definitive analysis of the exiting phenomenon, we can get some indications of what factors affect exit from public assistance by examining the change in PA status between 1988 and 1991. We therefore conducted two types of analysis on the entire FIS sample as of spring 1988 and spring 1991[1]. First, we performed cross-tabulations to examine the direct linkages between such factors as working, child care and age of youngest child, and welfare status. Second, we performed multiple regression analyses to sort out the

[1] We sampled from the spring quarter because child care data was only collected on the basis of spring and summer quarters. While there was not much difference in results between spring and summer, we believe it is cleaner to look at spring quarter because it does not raise the issue of how to care for school aged children when school is not in session.

independent effects of these different factors. Finally, we examined findings on welfare exiting in the national literature.

## The Impact of Having Young Children on Work and Welfare
### Cross-tabulation results:

We performed numerous cross-tabulations to check how the presence of young children in the family affected work status and receipt of public assistance. We performed chi-square significance tests; all results reported here are significant at the 0.05 probability level; most are significant at the 0.001 level.

The Family Income Study surveyed the same group of low income women periodically from 1988 until 1992. Some of the original sample were on public assistance when they entered the sample in 1988; another group, referred to as "at risk" were not receiving PA. The "at risk" women had higher family income and were more likely to be married than the PA group.

- There were 971 low income women with children in the FIS sample in spring of 1988. By spring 1991, this had increased to 1080.

- In spring 1991, 28.5 percent of the women had never received public assistance; 46.4 percent had received PA and exited; 25.1 percent were currently receiving assistance.

**Almost half [46.4%] of the low income women in FIS received public assistance but exited from the rolls**. Of those who had ever received PA, almost two thirds [64.9%] had exited.

We first examined the degree to which low income women in the FIS sample were working, and found that work effort is substantial. **We observed a 50% increase in percent of low income women with young children working between 1988 and 1991**. In 1988, 32% of all women with children in sample were working; by 1991, this increased to 48%. This increase in work effort was experienced by both those receiving AFDC and those who were not. The percent of exiters who were working declined somewhat, so factors other than work were also clearly involved in exit. These could not be determined from the FIS sample, but could have ranged from increased age of child, to marriage to a person with income over the eligibility standard, to administrative terminations. However, since so many more women had exited and were working in 1991 [261] than in 1988 [59], the drop in percent working among exiters masks an overall increase in work effort among the Public Assistance group.

| *Percent Working* | *Spring 1988* | *Spring 1991* |
|---|---|---|
| Never on Public Assistance | 56.7 | 65.5 |
| On Public Assistance, Exited | 56.2 | 52.4 |
| On Public Assistance, Not exit | 16.6 | 19.2 |
| *Total* ..... | *31.9* | *47.8* |

**The importance of the relationship between work and public assistance** is seen in the fact that the percent working is two-three times as high for those on PA and exiting than for those remaining on welfare. However, we note that in 1988, almost a third of PA exiters [32.4%] were neither working nor looking for jobs; an additional 11.4% were looking but not working. This suggests that exiting is related not just to work, but to marriage to an employed spouse or other loss of eligibility, such as age of child. We observe similar figures for 1991: 37.3% of exiters were neither working nor looking, 10.2% were looking but not working.

It is therefore important to see how such factors as the age of youngest child, presence of other adults in the household and use of out-of-home child care affect work and welfare status.

**The presence of young children in the household makes a substantial difference in work status, with a steady increase in percent working as children grow from infant to pre-school age child to school age.** We note that 239 women had infants in 1988, but only 135 did in 1991. However, the overall increase in work effort by women with young children is even more striking when we see that it occurred at each age level, rather than simply reflecting the aging of the children. For example, the percent working doubled for women with infants [age 0-1], from 13.0 in 1988 to 27.4 percent in 1992. Similarly, even with a large number of women moving from the infant to preschool age of youngest child, the percent whose youngest was a preschooler who worked increased 50 percent, from 25.2 to 38.2. This suggests a change in either policies or opportunities, and will make it important for us to examine how the young children were cared for while their mothers were working.

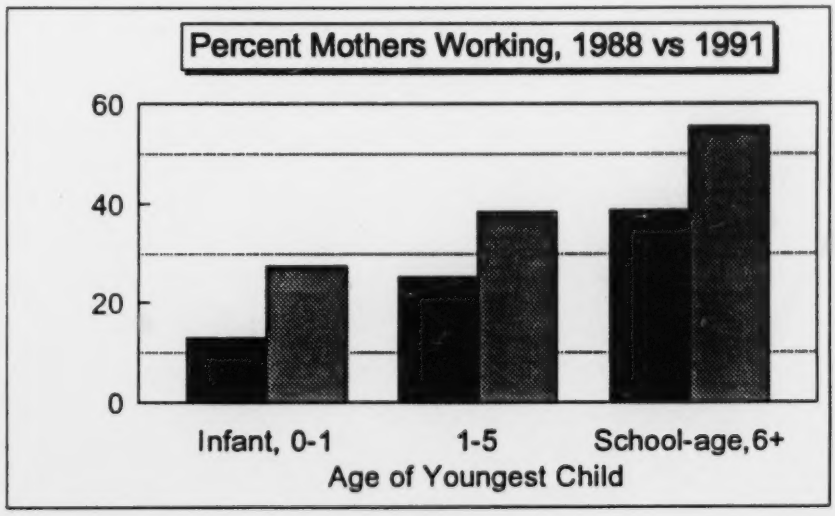



**Figure 1**

The presence of young children affects both work and public assistance status. **Women with young children were more likely to be on AFDC in each of the years than women with**

**school-age children [sig. <.001],** though the percent on PA declined from 1988 to 1991 for women with both younger and older children. The impact of age of children on work status could be explained by several different factors. Child care is required for the entire work day for pre-school children, while school-age children just require before/after school care, depending upon their age and the parents' work hours. Second, care for infants is much more expensive and difficult to find than for pre-school age children. Finally, many mothers desire to provide care to young children, but are increasingly comfortable with out-of-home care as children get older.

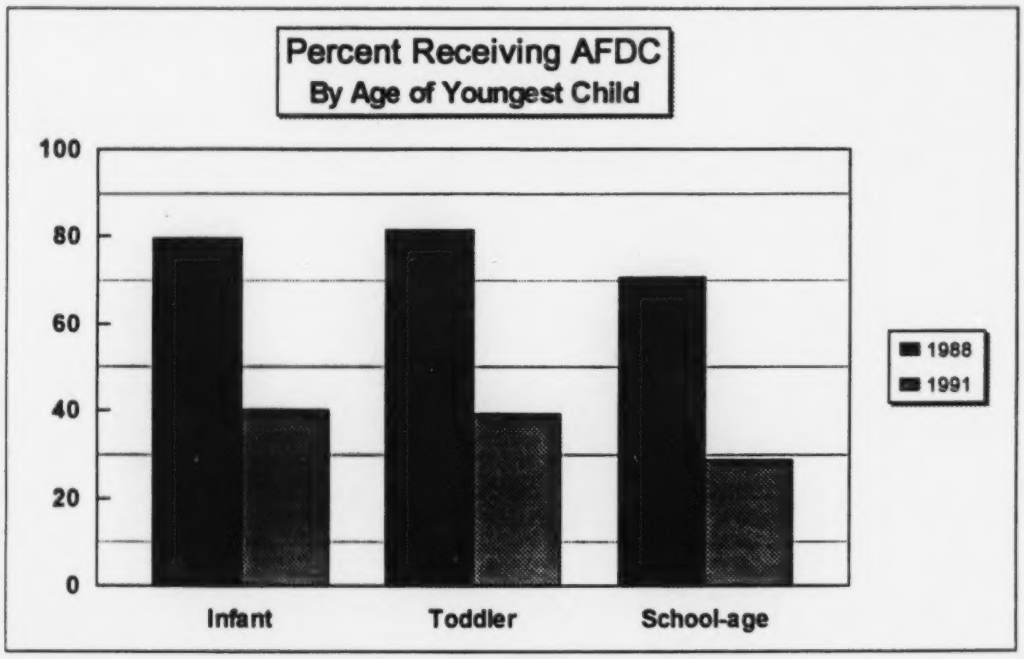



**Figure 2**

**Women with school-aged children were more likely to have never been on welfare than those with younger children**, and twice as many with school-aged children exited as remained on welfare. Since school-aged children do not need paid care during most of the day, this strongly suggests that child care is an important factor in whether women will be able to work and become financially independent of welfare.

**Women with young children were somewhat less likely to exit from public assistance than those with school aged children**. Similarly, women with school age children were less likely to remain on AFDC than those with infants or pre-school age children.

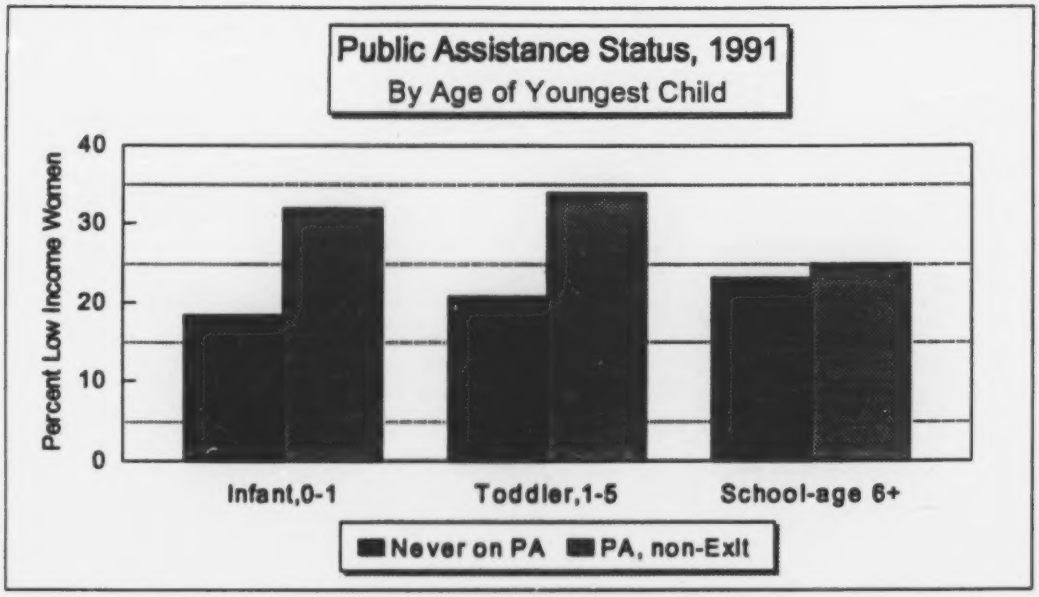



**Figure 3**

Since age of children is such an important factor in determining work and public assistance status, we want to examine the different features of household composition which affect how a child might be cared for. Marital status might have several different impacts on AFDC use. First, it may create categorical ineligibility. Second, if the spouse is working, there may be sufficient income to render the couple ineligible for AFDC and allow economic self-sufficiency. Finally, the spouse may be able to care for the child during the mother's work hours, either due to unemployment or different work hours of the partners. We examine many of these impacts with multivariate methods later. However, we can use a bivariate analysis to check the primary interaction by testing whether the present of other adults in the household, married or not, affects PA status. Many young children are cared for by aunts, uncles or grandparents while the mother works.

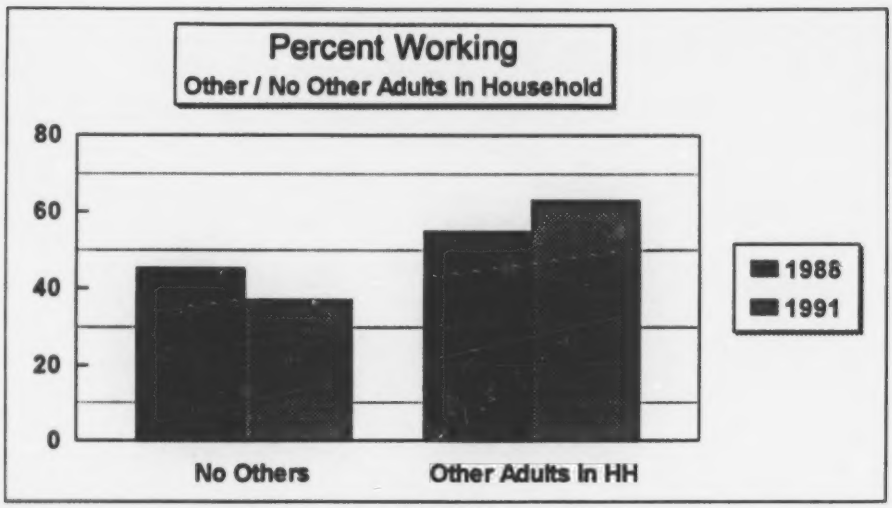



Figure 4

We found that **the presence of other adults in the household greatly improved the chances of working and therefore reduced AFDC use.** The impact grew from 1988 to 1991; while overall rates of marriage and rates of working increased, for women with no other adults in the household, the percent working declined. It is interesting to note that the overall percent of low income women with other adults in the household increased from 48.2% in 1988 to 60.0 percent in 1991.

**The impact of having another adult in the household was related more strongly to PA status than to work status.** Women with children and with other adults in the household stayed off PA at twice the rate as those with no other adults. Similarly, women with no other adults in the household were twice as likely to get on and remain on public assistance. The relationship was similar in both 1988 and 1991, but in 1991 there were both fewer women with no other adults in the household and fewer receiving PA.

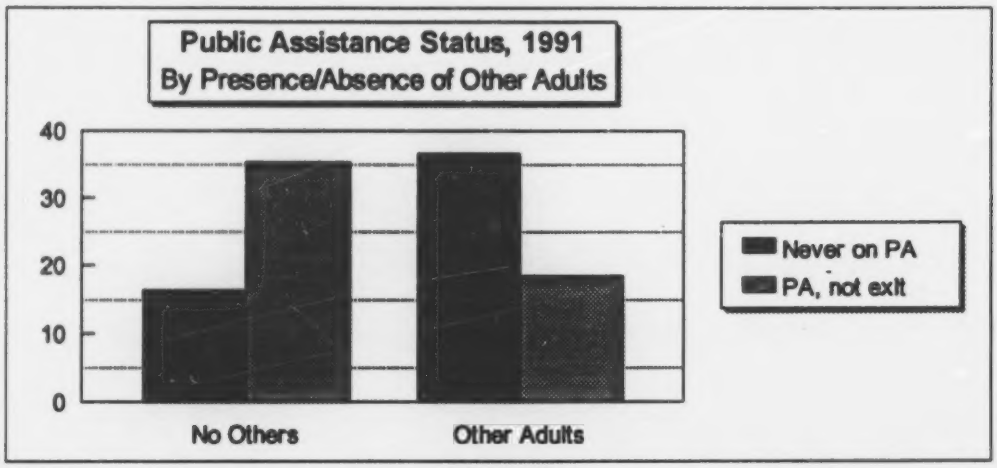



Figure 5

**Marital status is clearly related to PA status.**

- Married women were much less likely to receive PA, with 32% receiving PA in 1988 and only 11% receiving PA in 1991. PA was received by 35 percent of separated or divorced women and 42 percent of never married women in 1991.

- About a third of the PA women were never married [33.4 in 1988, 35.2 in 1991]

- About half of PA women were divorced or separated [54.2 in 1988, 50.0 in 1991] within that half, about a third of all PA women were divorced

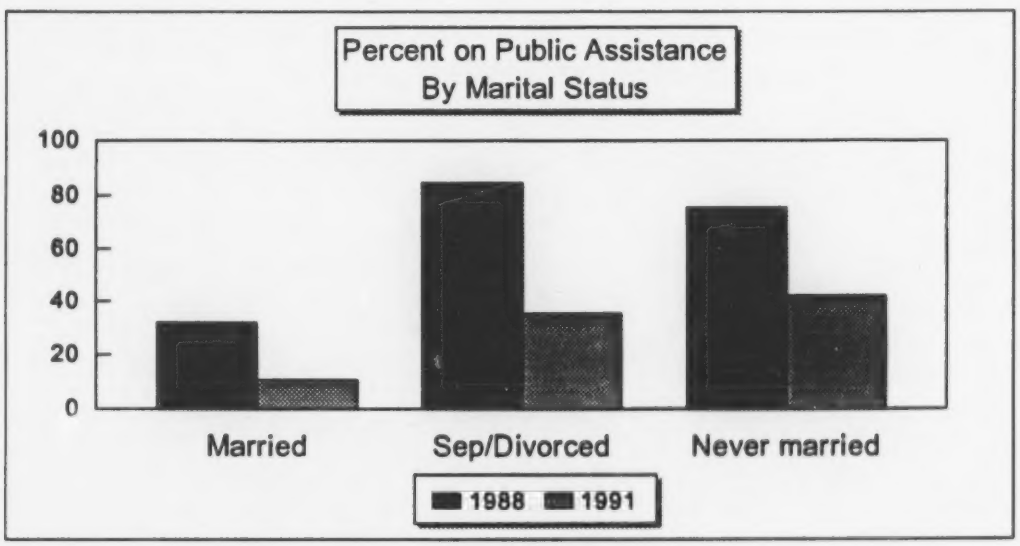



**Figure 6**

## Sorting the Multiple Effects on Work, Childcare and Public Assistance Status: Multivariate Regression Analysis

The cross tabulations presented in the previous section indicate that age of youngest child, presence of other adults in the household to help with care and marital status are clearly related to work status and use of public assistance. In order to disentangle the independent effects of these variables, we conducted a logistic multiple regression analysis.

We specified public assistance status in the spring of 1991 as our dependent variable for all models, using PA status in 1988 as a control. We ran several different models, with and without childcare and with/without age of youngest child in order to see which effects were direct and which operated through other variables. The results are displayed in Table __.

The childcare variable in FIS is weakly specified, because it only asks whether childcare was used, and whether it was formal or informal. Most women [__%] reported use of informal care. There is no information on the cost of care or receipt of a subsidy. Thus, a household paying out of pocket for a relative or other provider is scored the same as a household receiving free care through Head Start/ECEAP or a DSHS subsidy. We would expect availability of free or subsidized care to produce greater work and self-sufficiency than care that is paid for from the low earnings of the women in the FIS sample. We therefore expected limited regression results from the childcare variable and decided to track the effects of having young children as a proxy for the need for child care. It turned out that we obtained robust regression results for both use of child care and age of youngest child variables.

**In model 1, we included variables for the age of the youngest child (dummy variables for being an infant or being a pre-school toddler), but excluded any measure of the use of childcare.**[2] We found that even though working and marital status have the expected significant negative effects on PA use, having an infant or pre-school age child has an independent positive impact on PA. That is, regardless of whether women are working, if they have young children they are more likely to be on public assistance. This may imply that women with younger children -- who have greater needs for care and supervision -- are able to work fewer hours or at lower paying jobs, thus keeping them dependent upon assistance. Since we have observed that women with infants or pre-school age children are less likely to be working than women with school-aged children, we infer that presence of a pre-school age child impacts dependency both through the ability to work and desire to stay home and meet a young child's needs.

**It is interesting that while there is a clear bivariate correlation between the presence of other adults in the household and PA status, it drops to insignificance in the multiple regression**. Thus, the importance of other adults appears to lie in their ability to provide child care and operates through the child care or age of youngest child variable. Since we only included work status of the mother, and not income, the role of other adults is probably not in the provision of income, except to the extent that it is accounted for by the marital status variable.

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[2] When using dummy variables (which e.g. take the value of 1 if the child is an infant, and 0 if not), one must always have a reference category for which no dummy variable is used. In this case, the reference category is having a school-age child.

Among the demographic control variables, only race [whites less likely to be on PA] and age [older women more likely to be on PA] had significant effects when the other variables were controlled in model 1.

**In model 2, we added a childcare use variable, in addition to the age of youngest child variables** and the demographic controls. Despite the weakness in specification of the child care use variable, we wanted to check for its impact. The results are quite interesting. Use of childcare has a significant negative relation to public assistance status, even with age of youngest child and work status in the equation. As with age of youngest child, use of childcare may decrease AFDC usage by allowing mothers to work more hours. Availability of child care makes it possible for women to remain off welfare both through facilitating work and independent of the work. Some of the non-work relationship is probably women who are completing their education or conducting job-search activities, both of which are more difficult to do while taking care of a young child. It is possible that child care usage increases as a result of women working, rather than that use of child care enables work. However, since we find the same independent effects on working and welfare status for presence of young children that we find for child care, we think it is unlikely that the child care effect is "endogenous," or caused by work status, since presence of young children clearly cannot be caused by work status.

It is also conceptually possible that the correlation runs in the opposite direction: that women who leave welfare due to marriage and/or improved income utilize additional childcare to improve their quality of life. However, even the highest income households among welfare exiters are well below a comfortable middle class living standard, and have little discretionary income above what they need to purchase necessities of food, housing, clothing, transportation and medical care. It is therefore most likely that child care reduces public assistance use by increasing the ability to work, look for work or attend education or training. This is corroborated by the fact that the variables for working and marital status had greater impact in reducing PA use than did either the childcare or age of youngest child variable.

**Interestingly, in model 2 we found that the demographic controls [race, age] ceased to have a significant relationship when child care was added into the equation.** Thus, the fact that white and older women were less likely to be on PA appears to be largely accounted for by the fact that they had greater access to childcare.

We ran a third form of the regression model, **keeping the childcare variable but dropping out the age of the youngest child variables.** We found that this slightly strengthened the impact of the child care variable, as would be expected if the impact of having young children increased PA use by keeping women from working if they did not have access to childcare. Thus while the impact of access to child care is greater for families with pre-school age children, it is still significant for those with children in school. As in the previous model, working, marital status and childcare all had significant independent impacts on reducing use of public assistance.

**Our findings across the three models suggest a cautionary note about the potential impact of employment strategies for reducing the use of public assistance**. Since child care

and presence of young children have an impact on PA use independent of working, then moving mothers off AFDC rolls will require more than just employment opportunities.

It is also significant that licensed child care costs substantially more for younger children, due to lower adult:child ratios[3]. Thus, the cost of child care would offset earnings more for younger children than older ones. This is part of the explanation why age of child affects AFDC status independent of either work status or use of child care -- age of child captures part of the cost factors contributing to the net income effect of working and using child care.

## Long-term Dependency

Despite the fact the overall work effort increased and use of welfare decreased between 1988 and 1991, being on public assistance in 1988 was a significant factor in determining whether a household would receive assistance in 1991, even when all other factors were accounted for. This suggests that there is some chronic use factor involved.

[3] Minimum licensing ratios at child care centers for infants are 4:1; for pre-school age children 6:1, for pre-K 10:1.

**Table __ : Logistic Regression Results, Child Care and Public Assistance**

| Variable | Model 1 B Coefficient | Model 2 B Coefficient | Model 3 B Coefficient |
|---|---|---|---|
| *Positive* | | | |
| Infant | .59** | .63* | Excluded |
| Pre-school age child | .55*** | .60** | Excluded |
| PA in 1988 | .70*** | .66*** | .70*** |
| Age of woman | .02* | Not Sig. | Not Sig. |
| *Negative* | | | |
| Childcare | Excluded | -.36* | -.32* |
| Working | -1.51***[4] | -1.34**** | -1.45**** |
| Married | -1.49***[4] | -1.56**** | -1.44**** |
| White | -1.38* | Not Sig. | Not Sig. |
| *Insignificant* | | | |
| Other Adults in Household | .12 | -.11 | -.11 |
| Never married | .14 | .15 | .19 |
| No Degree | .37 | .44 | .44 |
| GED | .15 | .28 | .31 |
| HS Degree | .02 | .07 | .13 |
| Urban | .24 | .09 | .13 |
| Western County | .27 | .12 | .18 |
| Constant | -1.41* | -1.11 | -.34 |

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[4] Significance * = 0.10: **= 0.05; *** = 0.01; **** = 0.0001

## Summary: Factors Affecting the Probability of Receiving AFDC

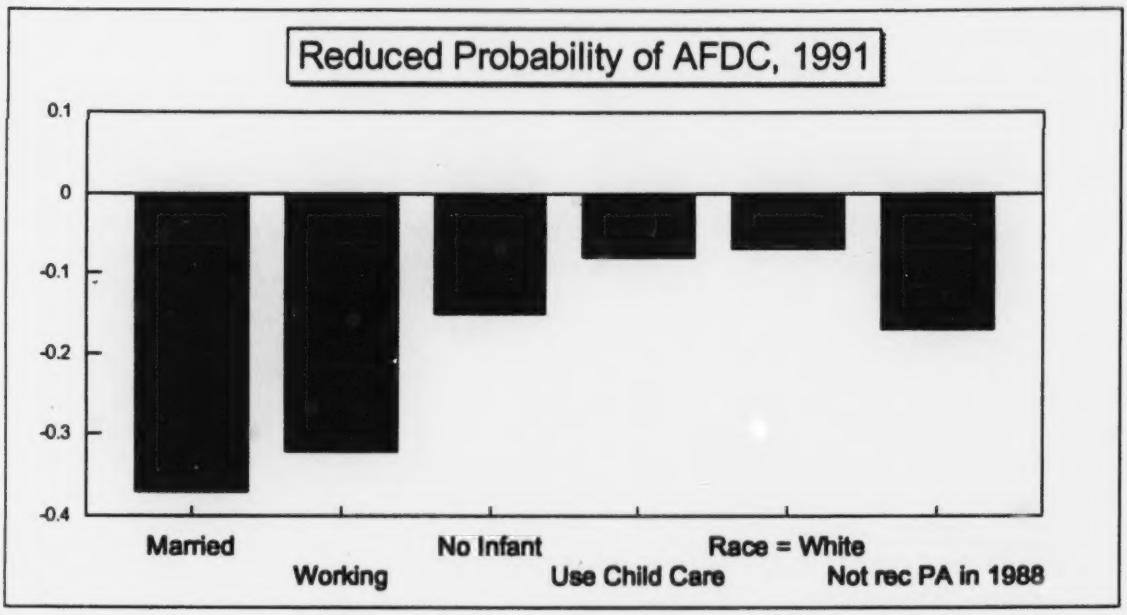
Since the coefficients from a logistic regression do not directly show how each explanatory variable affects the probability of being on AFDC, we converted the regression results into illustrative probabilities.[5] We examined several different examples, looking at age of client, race, education and presence of an infant or pre-school age child, and found consistent results for key variables across different subsets of the sample. Of course, the probabilities of being on AFDC varied across these groups, but the changes in the probabilities produced by changes in impacts of marital status, working and use of child care were remarkably stable across groups.

Our base case is a twenty-five year old female head of household, non-white, not married, living in an urban area, with no high school degree, whose youngest child is an infant (age 0-1), but who did not use childcare, and who was receiving public assistance in 1988. The probability of such a person being on assistance in 1991 was 0.66. As shown in the table and figure below, when we alter her marital status to "married," the probability drops to 0.31. The subsequent rows (bars in the figures) show how the probability further changes as we change additional characteristics. The major factors in reducing the probability of receiving assistance are being married, working, and using childcare. Whites have a seven percent lower probability than non-whites, and there is a 12 percent increase in probability which appears attributable to chronic use.

The reduced probability of being on AFDC from different factors is as follows:

| Variable | Probability of Receiving AFDC | Change, probability of AFDC |
|---|---|---|
| **Base Case:** | **.6817** | |
| **Married** | **.3111** | **-.37** |
| **Youngest NOT Infant** | **.5329** | **-.15** |
| **Use Child Care** | **.6000** | **-.08** |
| **Working** | **.3602** | **-.32** |
| **Race = White** | **.6147** | **-.07** |
| **Not rec. PA in 1988** | **.5089** | **-.17** |

[5] A coefficient in a logistic regression shows how a 1 unit change in the explanatory variable affects the "logarithm of the odds" of being on AFDC. Since the odds of being on AFDC are simple p/(1-p), where p is the probability of being on AFDC, we use an algebraic transformation to convert the impact of a change in an explanatory variable on the log odds to its impact on p.


Reduced Probability of AFDC, 1991
0.1
0
-0.1
-0.2
-0.3
-0.4
Married
Working
No Infant
Use Child Care
Race = White
Not rec PA in 1988

*Relationship of Child Care Findings to National Literature*

There is a small but consistent body of national literature on the relationship between child care and welfare dependency. In general, access to child care increases employment of women with children and decreases welfare dependency. That is consistent with our findings in this study.

Heckman made one of the earliest contributions to the literature, analyzing data from the National Longitudinal Survey.[6] While his analysis was limited by not having direct information on the cost of child care, he was able to differentiate formal from informal care. He found a significant negative effect on labor force participation associated with higher child care costs. He also found that additional children reduced work, but that the effect diminishes substantially with age.

Rachel Connelly's work has addressed the issue most directly. She estimated that full availability of no-cost child care could cut welfare dependency by as much as half, from a predicted level of 20 percent in her model to 11 percent.[7] The overall impact on labor supply would be substantial. Connelly's model estimated that with current costs, 58.8 percent of women with children will be employed; with universal no-cost childcare, the rate would increase to 68.7 %. She also demonstrated that the impact of additional children operated through increased cost, and that once cost is controlled, there is no significant impact on working from having more than one child. This is an important finding, given current policy concerns with women on welfare bearing more than one child.

Key findings from other studies are similar. Blau and Robins[8] found a dollar increase in average weekly child costs increased the rate of leaving employment by 2 percent, and decreased by 3 percent the rate of not-employed women becoming employed. Ribar[9] found a smaller decrease in married women's hours worked related to increased costs of child care.

The cost of formal child care is a significant issue. Ribar[10] demonstrated a large impact of the cost of care on utilization of paid care. Helburn et al. (1995) estimate the average national

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[6] Heckman, James, "Effects of Child-Care Programs on Women's Work Effort." Journal of Political Economy. 82:S153-S161. Cited in Rachel Connelly, "The Importance of Child Care Costs to Women's Decision Making." in David M. Blau, ed., *The Economics of Child Care*. New York: Russell Sage Foundation, 1991.

[7] Rachel Connelly, "The Importance of Child Care Costs to Women's Decision Making." in David M. Blau, ed., *The Economics of Child Care*. New York: Russell Sage Foundation, 1991.

[8] Blau, David and Phillip Robins, "Fertility, Employment, and Child-Care Costs." *Demography* 26, 2:287-299. Cited in Connelly, op.cit.

[9] Ribar, David C., "A Structural Model of Child Care and the Labor Supply of Married Women." *Journal of Labor Economics*, 1995, vol.13, no.3.

[10] Ribar, op.cit / ibid. p.583.

cost of child care at 23 percent of the median pre-tax income of a single parent.[11] Connelly estimated the costs of child care at 18 percent of the average mother's earnings, while low income families pay more than 25 percent of family income.[12] These national estimates are roughly comparable to our estimate that the average cost of child care in Washington is 20 percent of the after-tax income of the average worker[13]. This cost would be substantially higher if a quarter of the cost of care were not covered by foregone wages of child care workers and by donations of goods and services to child care centers. It has been well documented that as income increases, more families utilize child care, and for longer hours and in more formal settings (centers vs. homes)[14].

It should also be noted that there is a clear consensus in the literature[15] that child outcomes are positively related to the quality of care provided and the cost of services. This relationship is strongest for low income children and their later success in school[16]. There are two implications of this for the childcare-work-welfare connection. First, we noted that there appears to be a significant positive relationship among having pre-school age children and welfare status, independent of work status. To the extent this represents parents' desire to assure that their children are well cared for, the availability of quality child care will add to the capacity of mothers to work and attain economic self sufficiency. Second, providing better developmental and learning outcomes for young children from low income families will improve their own prospects for economic self sufficiency in future generations.

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[11] Suzanne Helburn, et.al, *Cost , Quality, and Child Outcomes in Child Care Centers. Public Report*, second edition. Denver: Economics Department, University of Colorado at Denver. April, 1995.

[12] Connely, op.cit. p.95.

[13] We derived our 20 percent estimate by a county-by-county analysis, where we compared the 1994 average cost of care as determined by a DSHS survey of child care centers and family day care homes with the 1994 average wages per county determined by the Department of Employment Security's wage survey.

[14] Jerry West, Elvie Germino Hausken, Mary Collins, *Profile of Preschool Children's Child Care and Early Education Program Participation. National Household Education Survey.* US Dept. of Education, Office of Educational Research and Improvement. NCES 93-133.

[15] Cheryl Hayes, John Palmer and M. Zaslow, *Who Cares for America's Children: Child Care Policy for the 1990s.* Washington, DC, The National Academy of Sciences Press. Suzanne Helburn, et.al, *Cost, Quality, and Child Outcomes in Child Care Centers,* Public Report. second edition. Denver: Economics Department, University of Colorado at Boulder.

[16] W. Steven Barnett, "Benefits of Compensatory Preschool Education." *Journal of Human Resources* 27:279-312. 1992.

## Part II. Disentangling the Multiple Factors Affecting the Ability of Washington's Welfare Recipients to Stay Off Welfare Once They Leave

### 1. Introduction

Fundamentally there are two ways to reduce the Washington welfare caseload and the extent of "welfare dependence:" lower the rate at which Washington families enter the welfare system, or speed up the rate at which they leave it. Many families have one spell of welfare, then permanently improve their economic circumstances and never use it again. A substantial portion of the families who leave welfare, though, eventually return for a second spell. (And some of these return again for a third or even fourth spell.) Such families raise the entry rate onto welfare and comprise a significant share of the welfare caseload at any time. Understanding the determinants of such welfare recidivism (or, conversely, the ability the stay off welfare) may help Washington policy makers develop welfare policies that reduce recidivism, and hence the size and costs of the welfare caseload, and improve the ability of Washington families who needed welfare at one point in their lives to maintain financial independence.

Work by the Washington Institute for Public Policy (WSIPP) suggested that for women who left AFDC-R, the level of their wage rate was a crucial determinant of how successfully they would remain off. WSIPP estimated that a wage of $8.00 per hour marked a key "threshold" that sharply divided persons likely to stay off welfare from persons likely to return. In the first phase of this project, completed in spring 1995, we extended WSIPP's analysis to a broader range of economic and social factors and showed that several such factors were also associated with the ability to remain off AFDC-R. These included the level of total income (counting both earnings and other sources of income), marital status, availability of sick leave, the local unemployment rate, and education. The project did not find evidence for a threshold level of income. Rather, we found that as total income rose, the likelihood of staying off welfare rose steadily. Both studies used Washington's Family Income Study (FIS) 5 year data base.

Both the first phase of this project and the WSIPP analyses looked at each factor separately. Neither provided results from a multivariate analysis to determine which of the relationships hold up when several factors that possibly influence recidivism are jointly considered. Both studies also relied on simple "lifetable" methods to derive the findings. These methods require strong statistical assumptions unlikely to hold among sample of welfare recipients. The findings from these studies, then, may not provide adequate, accurate guidance for policy design.

This report presents preliminary findings from the multivariate analysis conducted as part of second phase of the project. Section 2 briefly describes the FIS data used in the analysis. Section 3 reports simple, descriptive evidence on the association between the ability to stay off AFDC-R and a number of social and economic characteristics of the women who leave the program. Section 4 reports the multivariate findings and compares them to results from other studies of recidivism that use either national data files or data from other states.

This research analyzes determinants of welfare *recidivism*, and not the determinants of *exit* from welfare. One might expect that variables associated with a quicker exit from welfare would also tend to be associated with a slower return. However, exit and return are not the same phenomenon and the group of women for whom exit may occur is not the same group at risk of returning. Thus, the determinants of exit and recidivism may differ and findings from studies of exit behavior may not be reliable guides to results from analyses of recidivism.[17]

## 2. Data

The Family Income Study followed a panel of Washington families for the five year period 1988-1992. Families selected for FIS either were on welfare or deemed at risk of needing it. Data on a wide set of variables, including use of welfare, labor market experience, earnings and other income sources, personal background variables, marital status and area of residence were gathered each year for each family. Many FIS families either were on welfare at the start of FIS or went on welfare at some time during the 5 years.

### *Dependent Variables*

From among these families, we select for analysis those who left AFDC-R during the 3 year period January 1988 - December 1990.[18] We can observe all of these families for 24 months following the month of exit. We use the data for those 24 months to construct two dependent variables: the total number of months the family stays off AFDC-R , which can range from 1 to 24;[19] and a variable taking the value of 1 if the family stays off the entire 24 months, or 0 if it does not. After deleting families with missing data on their post-exit experience with AFDC-R, we have a sample of 200 families who went off welfare within this 3 year period.

To see if the findings are sensitive to the length of time we observe post-exit behavior, we also restrict the sample to families who left AFDC-R during the 2 year period January 1988 - December 1989. This allows us to observe each family for 36 post-exit months, but since we only look at the first 2 years of FIS data to define the sample, means there are fewer families who exit and a smaller sample available for statistical analysis. We construct two corresponding variables: total number of months the family stays off AFDC-R , which can now range from 1 to 36 and a

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[17] If a variable is a good predictor of exit, then among exiters, it will have less variance than it had for the total population of welfare recipients. Consequently, it is likely to have less predictive power in an analysis of recidivism.

[18] We observe some families who went off welfare, returned and went off again during the 5 year period. We only use the first exit in constructing the data file.

[19] The months off welfare need not be consecutive. For example, a family staying off welfare for 6 months, returning for 8 months, and then staying off during the remaining 10 months of the observation period, and a family staying off for 16 months, then going back on and staying on for the remaining 8 months are both assigned a value of 16 on this variable.

variable taking the value of 1 if the family stays off the entire 36 months, or 0 if not.[20] After we delete families with missing data, we have a sample of 147 families who went off welfare within this 2 year period.

Table 1 provides basic descriptive data on the dependent variables. Consider first outcomes based on the 24 month period of observation. Column 1 shows there is great diversity in success in staying off welfare. About a quarter of the exiters stayed off only 6 months or less and another 12% stayed off between 7 and 12 months. Many families who left were fairly successful in staying off: the median family stayed off 19 months and 44.5% stayed off the entire period. This means that 55.5% returned to AFDC-R within 24 months.

[20] Methodological considerations require us to be able to observe all exiting families for the same length of time. We could use all post-exit data for all families observed to leave welfare during the 5 year period if we conducted an "event history" analysis. The available resources for this project did not allow use of this more advanced statistical method.

## Table 1

## Total Months Off Welfare, Using (A) 24 and (B) 36 Month Periods of Observation

### A. 24 Month Observation Period

| Number of Months Off AFDC | Number of Cases | Cumulative Percent of Cases |
|---|---|---|
| 1 | 9 | 4.5 |
| 2 | 9 | 9.0 |
| 3 | 10 | 14.0 |
| 4 | 7 | 17.5 |
| 5 | 10 | 22.5 |
| 6 | 7 | 27.0 |
| 7 | 5 | 29.5 |
| 8 | 3 | 31.0 |
| 9 | 4 | 33.0 |
| 10 | 5 | 35.5 |
| 11 | 4 | 37.5 |
| 12 | 3 | 39.0 |
| 13 | 4 | 41.0 |
| 14 | 2 | 42.0 |
| 15 | 4 | 44.0 |
| 16 | 0 | 44.0 |
| 17 | 4 | 46.0 |
| 18 | 7 | 49.5 |
| 19 | 3 | 51.0 |
| 20 | 2 | 52.0 |
| 21 | 4 | 54.0 |
| 22 | 0 | 54.0 |
| 23 | 3 | 55.5 |
| 24 (Off Welfare Entire Observation Period) | 89 | 100.0 |
| **Total Cases** | **200** | |

## Table 1 (continued)

### B. 36 Month Observation Period

| Number of Months Off AFDC | Number of Cases | Cumulative Percent of Cases |
|---|---|---|
| 1 | 7 | 4.8 |
| 2 | 7 | 9.5 |
| 3 | 8 | 15.0 |
| 4 | 7 | 19.7 |
| 5 | 5 | 23.1 |
| 6 | 6 | 27.2 |
| 7 | 6 | 31.3 |
| 8 | 3 | 33.3 |
| 9 | 3 | 35.4 |
| 10 | 2 | 36.7 |
| 11 | 3 | 38.8 |
| 12 | 2 | 40.1 |
| 13 | 3 | 42.2 |
| 14 | 1 | 42.9 |
| 15 | 1 | 43.5 |
| 16 | 0 | 43.5 |
| 17 | 1 | 44.2 |
| 18 | 1 | 44.9 |
| 19 | 2 | 46.3 |
| 20 | 1 | 46.9 |
| 21 | 1 | 47.6 |
| 22 | 1 | 48.3 |
| 23 | 2 | 49.7 |
| 24 | 2 | 51.0 |
| 25 | 3 | 53.1 |
| 26 | 2 | 54.4 |
| 27 | 2 | 55.8 |
| 28 | 0 | 55.8 |
| 29 | 2 | 57.1 |
| 30 | 3 | 59.2 |
| 31 | 1 | 59.9 |
| 32 | 2 | 61.2 |
| 33 | 3 | 63.3 |
| 34 | 0 | 63.3 |
| 35 | 0 | 63.3 |
| 36 (Off Welfare Entire Observation Period) | 54 | 100.0 |
| **Total Cases** | **147** | |

Source: Tabulations from the Washington State Family Income Study

Outcomes based on the 36 month period of observation show similar diversity in experience. Again about a quarter of the exiters stayed off only 6 months or less. Another 13% stayed off between 7 and 12 months. The median duration off welfare increased and was 24 months. But since we observed families for a longer period when they could return to welfare, the proportion of families who stayed off the entire period declined to 36.7 percent.

*Explanatory Variables*

The ability of a family to stay off welfare may be influenced by the economic and social circumstances surrounding its exit from welfare, the characteristics of the family and its head, labor market conditions in the area where it lives, its access to child care, the relative attractiveness of the AFDC-R benefit, and yet other factors. We developed a large number of possible explanatory variables which attempt to capture these influences. However, since the FIS does not contain information on all possible variables that might affect rates of recidivism, and since the modest sample sizes make it difficult to include large numbers of explanatory variables in any one equation, one should not expect the available explanatory variables to provide a complete explanation for the observed patterns of recidivism.

*Demographic and personal background characteristics* of the adult welfare recipient and her family that we analyzed include her age when leaving AFDC-R, her race (limited to white or other because of small samples), her education (coded as having no secondary degree, having a high school degree, having a GED, or having some post-secondary education), the number of other adults and children in the household at exit, age of youngest child at exit, whether the youngest child was hospitalized at some time during the year of exit, her marital status at exit (coded as married, never married, or other), and the age at which the woman first received welfare.[21] We also examined her labor market involvement prior to exit, as indicated by whether she had worked or received training or schooling within the 12 months prior to exit.[22] These kinds of characteristics may affect success in staying off welfare because they reflect earnings ability or treatment in the labor market (e.g. education, recent experience, race), or the demands of home responsibilities that make it harder to work (e.g. marital status, age and hospitalization of youngest child).

We have limited information to characterize the *economic climate* where an exiting family lives. From information on county of residence and time of exit, we appended the local unemployment rate at the time of exit to each family's FIS data. We also use simple geographic indicators -- urban or non-urban residence, and living in the western or eastern part of Washington --as proxies for local economic opportunities. One would expect better opportunities to lead to lower rates of recidivism.

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[21] A woman could go on and off AFDC before the FIS data begin, so this age is not necessarily the age when she began the welfare spell that is observed to end.

[22] We also examined work and training/education variables defined over the previous 24 months. Results were very similar.



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*Income and job characteristics* at time of exit are the average monthly earnings of the woman during the first 6 months after exit, average monthly other income over the same period (includes spouse's earnings, earnings of other family members, and any other sources of income), whether the job is full-time, whether it provides paid sick leave, and whether it provides health insurance. The income and earnings variables are measured in November 1994 dollars. We also include information on whether the woman used formal or informal child care in either the spring or summer of the calendar year when she exited as an indicator of availability of such services. Higher earnings and income, and child care access are indicative of greater financial independence and would be expected to lead to lower rates of recidivism.[23] Job characteristics such as paid sick leave and health insurance help reduce the appeal of returning to AFDC-R to obtain medical benefits and, thus, would also expected to reduce recidivism.

One other explanatory variable is the AFDC-R payment standard during the month of exit. It is based on the family's size at exit and also measured in November 1994 dollars. Other things held constant, a higher real payment standard is expected to make return to welfare more likely.

Table 2 summarizes the characteristics of the sample. Mean age at exit was nearly 30, while mean age when first receiving welfare was 25. Whites comprise 80% of the sample. Twenty-eight percent of the women did not have a high school degree, while 39% held a high school degree and 19% earned a GED. Welfare exiters had an average of 2 children and a maximum of 7, and lived in households with an average of 1.7 adults. The average age of the youngest child was 5.8, but the youngest child of 55% of the exiters was age 5 or less. In 8 percent of the exiting families, the youngest child was hospitalized at some time during the year of exit. Twenty six percent of the women leaving AFDC-R were married; the same percent had never been married. In the year prior to exit, these welfare recipients had been extensively involved in work (86%) or training and education activities (41%).

Women who left AFDC-R had average monthly earnings of $784 and average total income of $1,348 during the first 6 months off welfare. These are comfortably above the available maximum cash welfare benefit of $609. More than half the exiters obtained full-time jobs and about a quarter of them held jobs with paid sick leave or health insurance. Since 68 percent of the exiters used either formal or informal child care during the summer, access to child care appears to be widely available, but not universal.

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[23] We consider these to be weak measures since the data do not indicate whether the child care is paid for by the household, or is subsidized directly through DSHS or indirectly through the provider. Use of child care is more likely to be a determinant of exiting than of recidivism.

## Table 2

## Characteristics of the Sample of Persons Who Went Off Welfare During January 1, 1988 - December 1990

| Explanatory Variable | Mean | Standard Deviation |
|---|---|---|
| *Personal and Background Characteristics* | | |
| Age at exit | 29.9 | 7.5 |
| Age when first received welfare | 25.0 | 7.7 |
| Race (white = 1) | .80 | .40 |
| No high school degree | .28 | .45 |
| High school degree | .39 | .49 |
| GED | .19 | .39 |
| No. of children in household | 2.0 | 1.2 |
| No. of adults in household | 1.7 | 0.8 |
| Age of youngest child | 5.8 | 4.0 |
| Youngest child recently hospitalized | .08 | .28 |
| Married | .26 | .44 |
| Never married | .26 | .44 |
| Worked during year before exit | .86 | .35 |
| Training/education during year before exit | .41 | .49 |
| *Economic Climate* | | |
| Local unemployment rate | 7.5 | 3.1 |
| Urban resident | .65 | .48 |
| Western WA resident | .63 | .48 |
| *Income and Job Characteristics* | | |
| Average monthly earnings over first 6 post-exit months | 784 | 765 |
| Average total income over first 6 post-exit months | 1348 | 967 |
| Full-time job | .57 | .50 |
| Job with paid sick leave | .24 | .43 |
| Job with health insurance | .24 | .43 |
| Used formal childcare in summer | .17 | .38 |
| Used informal childcare in summer | .51 | .50 |
| AFDC-R payment standard | 609 | 128 |

*Note*: Sample size ranges from 143 to 203, because some cases lack data for one or more explanatory variables.

*Source:* Tabulations from the Washington State Family Income Study

## 3. Descriptive Findings

Table 3 shows the bivariate correlations between each explanatory variable and the two dependent variables that measure total number of months the family stays off AFDC-R. Values of the correlation coefficient can range between -1.0 and 1.0. A positive (negative) value means that higher values on the explanatory variable tend to be observed with higher (lower) number of months off AFDC-R.[24] A value of zero means there is no directly observable relationship between the two. The table also shows whether each observed non-zero correlation is statistically significant with a very strong degree of confidence ($p < .01$, shown by ***), a strong degree ($.05 > p > .01$, **) or a moderate degree ($.10 > p > .05$, *). Because these correlations do not control for possible confounding influences of other factors, they should be treated cautiously and regarded as providing simple descriptive information.

Surprisingly, there relatively few significant correlations. The only demographic and personal characteristics associated with the length of time off welfare are lack of a high school degree, being married, and having received training or schooling within the 12 months prior to exit. As anticipated, low schooling is negatively correlated with time off welfare while the other two show positive correlations. Living in an urban area is positively correlated with time off welfare, but the local unemployment rate is not. Consistent with our earlier report, higher earnings and total income are strongly correlated with the ability to stay off welfare. Having a full-time job or paid sick leave is weakly correlated with the ability to stay off welfare.

Several other correlations run in the direction one would anticipate. For example, more children, having the youngest child hospitalized, a higher local unemployment rate, use of childcare, and a higher payment standard are associated with less time spent off welfare, while having more adults in the household is associated with more time off. But the lack of statistical significance at even the $p = .10$ level indicates the observed relationships are weak and not likely to be reliable.

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[24] A value of 1.0 (-1.0) means the two variables are perfectly correlated, so that a graph of the two would produce a perfectly straight line with a positive (negative) slope.

## Table 3

## Correlations Between Number of Months Off Welfare and Explanatory Variables

| Explanatory Variable | 24 Month Observation Period | 36 Month Observation Period |
|---|---|---|
| *Personal and Background Characteristics* | | |
| Age at exit | -.02 | -0.0 |
| Age when first received welfare | -.01 | .05 |
| Race | .06 | -.03 |
| No high school degree | -.14* | -.12 |
| High school degree | .07 | .05 |
| GED | -.05 | .01 |
| No. of children in household | -.04 | -.02 |
| No. of adults in household | .08 | .08 |
| Age of youngest child | -.03 | -.08 |
| Youngest child recently hospitalized | -.09 | -.07 |
| Married | .21*** | .27*** |
| Never married | .01 | .01 |
| Worked during year before exit | -.07 | -.05 |
| Training/education during year before exit | .20*** | .14* |
| *Economic Climate* | | |
| Local unemployment rate | .05 | -.06 |
| Urban resident | .15** | .15* |
| Western WA resident | -.01 | .00 |
| *Income and Job Characteristics* | | |
| Average monthly earnings over first 6 post-exit months | .32*** | .31*** |
| Average total income over first 6 post-exit months | .36*** | .37*** |
| Full-time job | .10 | .16* |
| Job with paid sick leave | .15* | .14 |
| Job with health insurance | .09 | .00 |
| Used formal childcare in summer | .10 | .09 |
| Used informal childcare in summer | .03 | .03 |
| AFDC-R payment standard | -.08 | -.04 |

* Significant at 10% level
** Significant at 5% level
*** Significant at 1% level

*Source*: Computations from the Washington State Family Income Study

## 4. Factors Associated with Success in Staying Off AFDC-R: Multivariate Findings

The multivariate regression findings for the 4 dependent variables described earlier resemble those for the correlations in table 3: only a few variables show a statistically significant relationship with either the number of months a family remains off AFDC-R, or the likelihood that the family stays off welfare for the entire 24 or 36 month period.[25] There are 3 significant relationships consistently observed in the regressions.[26]

1. *Higher average monthly earnings by the woman leaving welfare consistently increase the number of months off welfare and the probability that a family will remain off welfare over the entire observation period.* This is the only explanatory variable significant for all 4 dependent variables.

Based on the 24 month observation period, the specific coefficient estimates imply that raising earnings by $100 per month will, on average, increase the number of months off welfare by 0.33 and increase the probability that a family stays off welfare the entire period by .035. Relative to the baseline probability of .447, an increase of .035 seems substantial. Based on the 36 month observation period, the same increase in earnings is predicted, on average, to increase the number of months off welfare by 0.55 and increase the probability that a family stays off welfare the entire period by .037. Relative to the baseline probability of .366, an increase of .037 seems quite sizable.

2. *Exiters who found full-time jobs tended to remain off welfare for more months.*

The coefficient estimate based on the 24 month observation period implies that exiters with full-time jobs remain off welfare an average of 2.2 months more. The estimate based on the 36 month observation period predict full-time job holders stay off 5.4 months longer. However, obtaining a full-time job was not significantly associated with the likelihood of staying off the entire observation period.

3. *Women who were married when they exited AFDC-R tended to remain off welfare for more months.*

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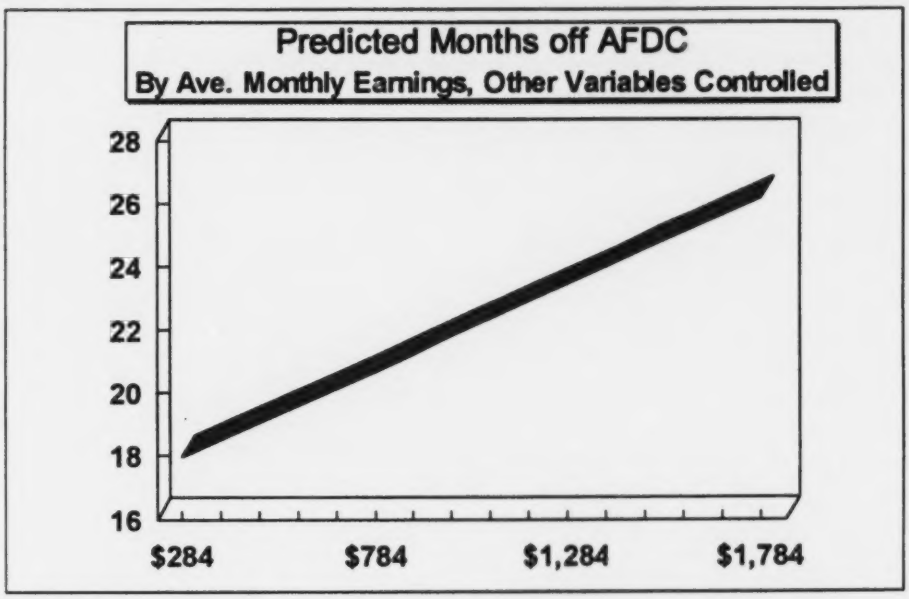
[25] The two dependent variables measured on monthly interval scales are analyzed using standard ordinary least squares regression methods. The other two are dichotomous and, to avoid statistical bias, we analyze them using logistic regression, which provides estimates of the probability that a family will remain off welfare for the entire period. Because some cases have missing data on some explanatory variables, the number of cases in the regressions is less than the 200 or 147 persons observed to leave AFDC-R.

[26] Because we have modest size samples, we were reluctant to put all the explanatory variables in one regression. To derive the results we used some exploratory regressions to identify a core set of explanatory variables. To explore the robustness of the results, we added excluded variables back to the core regressions one at a time, and tried a number of other alternative model specifications. While a variable occasionally became significant or turned insignificant in some of these models, the general pattern of results was stable.

The coefficient estimate based on the 24 month observation period implies that married exiters remain off welfare an average of 3.4 months more. The estimate based on the 36 month observation period predicts married exiters stay off 5.7 months longer.

Being married was also significantly associated with the likelihood of staying completely off over the 24 month observation period, but, oddly, showed no effect on the likelihood of staying completely off the 36 month observation period.

Being involved in training or education activities during the 12 months before exit is consistently a significant predictor of staying off welfare for the entire 24 month observation period. Having a high school degree is consistently a significant predictor of staying off welfare for the entire 36 month observation period. Yet neither is ever significant when the number of months off AFDC-R is the dependent variable. There may well be a link between better schooling or training and avoiding repeat welfare use, but the evidence is equivocal.




In contrast to claims in some other reports, ***there is no evidence of a "threshold wage" that holds the key to preventing recidivism***. The notion of a threshold wage suggests that the probability of not going back on welfare remains relatively low over a broad range of low and moderate wage rates, then sharply rises once wages pass the threshold. When we used appropriate statistical methods to test for such a relationship in the multivariate models, however, there was no statistical evidence for this kind of discontinuity in the impact of earnings on recidivism.[27] Rather, we found a steady linear relationship, with each additional $100 per month

[27] We applied a "spline" function to the earnings variable to see if the relationship between earnings and the dependent variables changed as earnings crossed from low to medium ranges and from medium to high ranges. The resulting coefficients were never statistically significant. We conclude that the effect of earnings on the



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of wages adding 0.55 months to the length of time remaining off welfare (in the 36 months observation period.

Interestingly, while own earnings has a strong effect on recidivism, a measure of total income, which adds contributions from other household members and miscellaneous non-work sources of income to own earnings, does not. When total income is substituted in place of the earnings measure, it is always statistically insignificant. When own earnings and a separate measure of all other income are entered in the same model, either the earnings measure remains significant and the other income measure is insignificant, or both become insignificant.

Why are earnings a key determinant of the chance of recidivism, but total income is not? Such a result may mean that, beyond the money they provide, higher earnings also partly reflect personal characteristics of the workers not measured in the data set. These could include better motivation and work attitudes, higher ambition, lack of substance abuse problems, or a better ability to get along with co-workers and supervisors. The result might also mean there are non-monetary characteristics of better paying jobs that reduce recidivism, but which are not observed in the FIS data. These might include better fringe benefits, more regular work hours, and more opportunity for advancement. All these factors would tend to encourage staying employed and to raise the costs of quitting).

If these explanations have validity, they suggest an important policy implication. To improve self-sufficiency, policy makers must consider not just the education and specific job skills that enable low income women to get higher wage jobs, but also personal qualities of the individuals and the non-monetary aspects of those jobs. Interventions for current or potential welfare recipients might include developing better work attitudes and personal interaction skills. Policies to supplement privately provided fringe benefits or to encourage firms to offer jobs with more attractive non-monetary attributes may also be useful.

We caution that these two possible explanations, and any policy implications which follow, are speculative. The empirical results are consistent with them, but it does not necessarily follow that they are, in fact, correct.

No other measure of demographic, background, economic climate or job characteristics has a significant impact on any measure of welfare recidivism. We considered the possibility that some of these variables help increase earnings and, thus, have an indirect effect on recidivism transmitted through the earnings measure. This hypothesis, however, received no support in further regression analysis.[28]

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number of months off welfare or the likelihood of remaining off the entire period is uniform over its entire range. That is, an extra $100 of earnings per month tends to increase the number of months off welfare by the same amount regardless of whether the extra $100 goes to someone earning say, $500 a month or to someone earning $800 per month, $1200 per month, or any other amount.

[28] We tried regressions that omitted the earnings measure, but included all the other core demographic, background, economic climate and job characteristics variables. If the hypothesis were true, we would expect many of these variables to now become statistically significant. In the 2 ordinary least squares regressions, none of the formerly insignificant variables became significant. In the logit regressions for being off welfare the full 24 or

## Findings for Washington State Compared to Other Studies of Welfare Recidivism

Despite the vast body of research on welfare programs and, specifically, the behavior of welfare recipients, only a few researchers have investigated the factors that help women stay off AFDC once they exit the program.[29] This section places our results in the context of the six other studies of welfare recidivism that use multivariate methods. (The appendix summarizes the basic characteristics of these studies.)

*Findings:* Few consistent results emerge from the studies. We break the results into three categories that roughly match those used in our analysis of the Family Income Study: demographic and background characteristics, regional economic climate, and income and job characteristics at exit.[30]

*Demographic and Background Variables.* While five studies looked at marital status, only two found that it had a significant effect on the probability of returning to AFDC. Both Bane and Ellwood (1994) and Brandon (1995) found that women who had never married were more likely to return to welfare. Harris (1994) reported that although marital status by itself had no effect, it did increase the probability that women who cycled on and off welfare would stay off AFDC when analyzed in conjunction with the husband's work status.

Three studies found that older women were less likely to return to public assistance (Bane and Ellwood, 1994; Harris 1994; Gleason, Rangarajan, and Schochet ND), although age was not significant in Brandon's (1995) analysis. Only Lane and Stevens (1995) looked at whether the age at which the respondent began receiving welfare payments influenced her ability to stay off public assistance. They reported that women who received AFDC between the ages of 15 and 18 were more likely to return to welfare than women who grew up in families that received welfare and those who first received AFDC payments after they were 18 years old.

Women with large families appear to be less able to stay off welfare than those with smaller families. Bane and Ellwood (1994) and Blank and Ruggles (1994) reported that as the number of children in the family increased so did the probability of returning to AFDC. Harris (1994) reported that women with three or more children were more likely to return to welfare. Brandon (1995), on the other hand, found that the number of children did not affect recidivism. Rather, he showed that women who gave birth soon after they exited AFDC were more likely to return than those who did not give birth after exit.

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36 months, only the variable for having a full-time job became significant, while at the same time in the logit regression for being off the full 36 months, the high school degree variable actually became insignificant.

[29] There are many studies of the determinants of the length of time on welfare and the factors that affect how quickly recipients leave. Studies of recidivism, however, are uncommon.

[30] We do not discuss findings on variables included in these studies that were not available in the FIS data.

Blank and Ruggles (1994) also found that the presence of preschoolers in the household had no significant effect on recidivism. Bane and Ellwood (1994) reported the odd result that when the youngest child is under 3, recidivism is less likely.

Findings on the effect of education are mixed. Blank and Ruggles (1994) and Brandon (1995) found that education had no significant effect. Bane and Ellwood (1994) and Gleason, Rangarajan, and Schochet (ND) reported that teenage parents with a high school diploma were less likely to return to AFDC. Similarly, Harris (1994) found that women with no education beyond high school were less likely to remain off welfare. She also found, however, that the effect of education disappeared with the introduction of the respondent's predicted wage. She argued that education works through wages to influence the probability of recidivism.

Like the other demographic variables, race show mixed results. Bane and Ellwood (1994) and Blank and Ruggles (1994) reported that African-American exiters were more likely to return to AFDC and Gleason, Rangarajan, and Schochet (ND) found that white, non-Hispanic teenage mothers stood a better chance of staying off AFDC once they exited the program. But Brandon (1995) and Harris (1994) found race had no effect.

Finally, findings on the role of prior work experience are also mixed. Bane and Ellwood (1994) found recent work experience to predict a lower rate of recidivism, while Gleason, Rangarajan, and Schochet (ND) reported that young mothers who ever held a job were no less likely to return to AFDC than those with no work experience.

*Regional Economic Climate*. Three of the four studies using national data agreed that the state unemployment rate did **not** influence the probability that a woman would remain off welfare. (The fourth one did not include local labor market conditions in their model.) Blank and Ruggles (1994) found that higher state AFDC benefits increased recidivism, but Bane and Ellwood (1994) did not. Harris (1994) also looked at the effect of living in an urban area and reported that urban women experienced higher rate of recidivism than their non-urban counterparts.

*Income and Job Characteristics*. Five studies looked at earned and non-earned income, although the sources of income and the way the researchers measured them varied considerably. Lane and Stevens (1995) found that a woman's actual earnings in the month she exited welfare had no effect on recidivism. They also reported that as family earnings increases so did the probability of returning to AFDC. The authors explain this puzzling result with the weak argument that "higher family earnings appear to reduce the need for the woman to work and hence reducing the time she spends off welfare" (269).

Two studies looked at the predicted wage, rather than actual earnings, and came up with different results.[31] Brandon (1995) reported that a higher predicted wage was associated with a lower probability of recidivism, but Harris (1994) found the predicted wage was not statistically significant. Non-earned income also yielded mixed results. Blank and Ruggles (1994) reported that as non-earned income increased so did the probability that a woman would remain off AFDC,

[31] The studies used predicted wage because of the authors' concerns that actual wage is endogenous to the model.

while Brandon (1995) found that non-earned income had no effect. Finally, the studies that looked at the individual's AFDC benefit level before she left the program found that it did not affect the probability of recidivism.

### Findings for Washington State in the context of other research

Since there are few consistent results in this emerging literature, the results for the Washington data are not as surprising or puzzling as they may have first appeared. The insignificant results found in this study usually can be found in some of the other studies, but not all.[32] The same is true for the three significant relationships. The mixed results suggests that welfare recidivism is not well explained by the standard kinds of variables available in survey data.

[32] The insignificance of the unemployment rate, though, is consistent with all other studies that examined this variable.

Appendix A - 1

## Final Regression Models for Estimating Determinants of Number of Months Off Welfare

### 24 Month Observation Period

| Explanatory Variable | Coefficient | t-statistic |
|---|---|---|
| Married | 3.42 | 2.26** |
| Never Married | 1.1.8 | .83 |
| No High School Degree | -.20 | -.01 |
| High School Degree | 1.68 | .89 |
| GED | -.30 | -.14 |
| Urban Resident | -.16 | -.01 |
| Western WQA Resident | -2.20 | -1.39 |
| Local Unemployment Rate | -.20 | .62 |
| Training/education during year before exit | 1.81 | 1.39 |
| Full-time Job | 2.19 | 1.69* |
| Used Formal Childcare | .26 | .14 |
| Used Informal Childcare | .83 | .60 |
| Job with Paid Sick Leave | .87 | .48 |
| Job with Health Insurance | -1.94 | -1.06 |
| Ave. Monthly Earnings, First 6 post-exit Months | .33 | 2.63** |
| Missing Value Dummy | -9.88 | -6.57 |
| Constant | 14.67 | 3.49 |

* Significant at 10% level
** Significant at 5%
*** Significant at 1%

Appendix A - 2

## Final Regression Models for Estimating Determinants of Number of Months Off Welfare

### 36 Month Observation Period

| Explanatory Variable | Coefficient | t-statistic |
|---|---|---|
| Married | 5.72 | 2.05** |
| Never Married | 2.41 | .93 |
| No High School Degree | -.13 | -.003 |
| High School Degree | 2.71 | .81 |
| GED | 4.10 | 1.07 |
| Urban Resident | 1.57 | .53 |
| Western WQA Resident | -3.97 | -1.44 |
| Local Unemployment Rate | -.14 | -.26 |
| Training/education during year before exit | .71 | .30 |
| Full-time Job | 5.39 | 2.24** |
| Used Formal Childcare | 2.33 | .67 |
| Used Informal Childcare | 2.41 | .98 |
| Job with Paid Sick Leave | 2.42 | .75 |
| Job with Health Insurance | -5.93 | -1.76* |
| Ave. Monthly Earnings, First 6 post-exit Months | .55 | 2.30** |
| Missing Value Dummy | -15.33 | -5.88*** |
| Constant | 16.11 | 2.21** |

* Significant at 10% level
** Significant at 5%
*** Significant at 1%

Appendix B - 1

## Final Regression Models for Estimating Probability of Staying Off Welfare Over Entire Observation Period

### 24 Month Observation Period

| Explanatory Variable | Coefficient | t-statistic |
|---|---|---|
| Married | 1.06 | 1.88* |
| Never Married | .09 | -.16 |
| No High School Degree | -.40 | -.49 |
| High School Degree | .51 | .69 |
| GED | -.35 | -.43 |
| Urban Resident | -.48 | -.72 |
| Western WQA Resident | -.61 | -1.04 |
| Local Unemployment Rate | -.09 | -.75 |
| Training/education during year before exit | 1.24 | 2.59** |
| Full-time Job | .53 | 1.09 |
| Used Formal Childcare | .02 | .03 |
| Used Informal Childcare | -.04 | .08 |
| Job with Paid Sick Leave | .36 | .55 |
| Job with Health Insurance | -1.00 | -1.49 |
| Ave. Monthly Earnings, First 6 post-exit Months | -.14 | 2.84*** |
| Missing Value Dummy | -2.99 | -4.08*** |
| Constant | -.37 | -.24 |

* Significant at 10% level
** Significant at 5%
*** Significant at 1%

Appendix B - 2

## Final Regression Models for Estimating Probability of Staying Off Welfare Over Entire Observation Period

### 36 Month Observation Period

| Explanatory Variable | Coefficient | t-statistic |
|---|---|---|
| Married | .67 | .93 |
| Never Married | -.46 | -.58 |
| No High School Degree | .47 | .44 |
| High School Degree | 1.92 | 1.95* |
| GED | 1.47 | 1.44 |
| Urban resident | -.94 | -1.04 |
| Western WA Resident | -.44 | -.57 |
| Local Unemployment Rate | -.12 | -.79 |
| Training/education during year before exit | .51 | .81 |
| Full-time Job | -.21 | .31 |
| Used Formal Childcare | .05 | .05 |
| Used Informal Childcare | -.38 | -.58 |
| Job with Paid Sick Leave | 1.24 | 1.54 |
| Job with Health Insurance | -1.48 | -1.70* |
| Ave. Monthly Earnings, First 6 post-exit Months | .16 | 2.18** |
| Missing Value Dummy | -3.93 | -3.48*** |
| Constant | -.75 | -.38 |

* Significant at 10% level
** Significant at 5%
*** Significant at 1%

# Appendix

## Description of Other *Studies of* Welfare Recidivism

Existing studies of welfare recidivism use both national and state data sets. Blank and Ruggles (1994) work with the 1986 and 1987 panels of the national Survey of Income and Program Participation (SIPP). The authors examine recidivism among 473 single mothers with children under the age of 19 who exited AFDC. Brandon (1995) also uses SIPP data, although he includes data from the 1986-1988 panels. He analyzes 557 exit spells of single mothers, aged 18-44. Bane and Ellwood (1994) examine 1,438 exit spells using annual data covering 1968 to 1988 from the national Panel Study of Income Dynamics, while Harris (1994) analyzes 743 post-AFDC spells using monthly data for1983 to 1988 from the same survey.

Two studies rely on state data for their analyses of welfare recidivism. Lane and Stevens (1995) develop an administrative data base of all Maryland AFDC cases between the third quarter of 1985 and the third quarter of 1993. They select a subset of 355 women who turned 18 in 1989, were case heads between the ages of 18 and 20, and exited welfare for work. Gleason, Rangarajan, and Schochet (ND) use data from the Teenage Parent Demonstration Program in Chicago IL, Newark NJ, and Camden NJ. The program interviewed teenage parents who were first-time AFDC recipients at their entrance into the program and 28 months later. Participants began the program between late 1987 and mid-1991. The authors also obtain data on AFDC receipt from state welfare offices for the period 1987 to 1992. Their analysis includes 4,614 cases.

All six studies used hazard (event history) models.

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